Serving "Our Army at War -- Relevant and Re

2005 Advanced Planning Brief to Industry

PEO CS&CSS and Industry Challenges

Presented by:

BG JOHN R. BARTLEY

Program Executive Officer

Combat Support & Combat Service Support

Agenda

- **Portfolio & Organization**
- **Mission and Vision**
- **Project Management Offices/Direct Report Product Management Offices**
  - Overview
  - Technology Challenges
  - Opportunities for Industry
- **Summary**

PEO CS&CSS Portfolio & Organization

Program Executive Officer
BG John R. Bartley
Deputy PEO
Dr. Grace Bochenek

Force Projection
PM: COL Timothy Goddette
DPM: Ms. Patricia Plotkowski
103

Tactical Vehicles
PM: COL Scott Kidd
DPM: Mr. Tony Shaw
86

- Heavy Tactical Vehicles — *LTC Lisa Kirkpatrick* — 33
- Light Tactical Vehicles — *LTC Kevin Peterson* — 25
- Medium Tactical Vehicles — *Mr. David Dopp* — 28

- Army Watercraft Systems — *LTC Philip Schoenig* — 11
- Bridging — *LTC Jerry Winberry* — 14
- Combat Engineer/Material Handling Equipment — *LTC Carol Solesbee* — 17
- Force Sustainment Systems — *LTC Craig Rettie* — 43
- Petroleum & Water Systems — *LTC Francisco Espaillat* — 16
- Recovery Vehicle Management Office — *Mr. Bill Madro* — 2

Natick, MA
Warren, MI
Rock Island, IL
Washington, DC
Huntsville, AL

PEO CS&CSS DA Systems Coordinators

- PM TMDE: Test, Measurement, & Diagnostic Equipment — *LTC Dwayne Morton* — 25
- Sets, Kits, Outfits & Tools — *LTC Jeff Carr* — 38

Innovation for Today's Expeditionary Forces

ASV

Gunner Protection Kit (GPK) Installations

Sherpa Guided

Cougar

RG31

Cooling Vests

Armor Installations

Buffalo

Improved Seat Restraints

Combined Laundry & Shower Facilities (LADS)

Unique Bridging Solutions

PEO-LNOs

Fire Suppression

Gunner Restraint System

RTCH

Sprung Shelters

Camp Arifjan

Containerized Kitchen

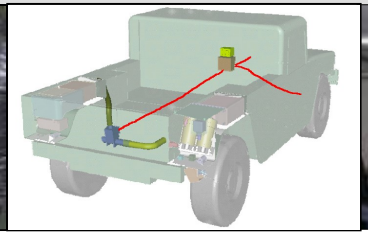
TSV Mission

Force Protection

…Innovation for Tomorrow's Expeditionary Forces

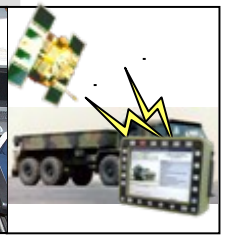
"Connect" our Logisticians

Wireless Diagnostic Sensor

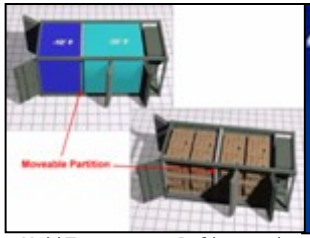

Digital Backbone

C4I - EMPRS

C4ISR


Communications to CLOE (VCS)

Modernize Theater Distribution

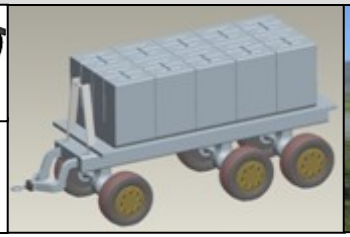


Multi-Temperature Refrigerated Container System

Precision Airdrop

Improved Load Handling

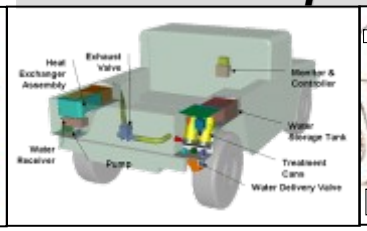
UV/MSV System Acquisition Concepts


Trailer Strategy Concept

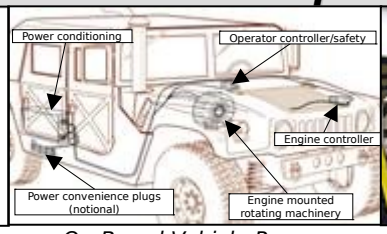
RIFTS

Improve Force Reception

Long Term Armor Strategy



WRUE

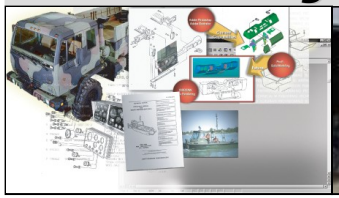


On-Board Vehicle Power

Rapid Repower

MSD

Integrate the Supply Chain


IETMS

PLS w/ASLMS

Equipment rarely breaks – When it breaks, it's easy to fix

- Self-diagnostics and reporting
- Few tools, repairs < 20 min
- Common parts/carry spares

Force Projection ~ *Project Management Office*

Project Manager

COL Timothy Goddette

Deputy PM Acquisition: **Ms. Patricia Plotkowski**

Deputy PM Logistics: **Ms. Janet Bean**

Deputy PM Technology: **Mr. Jack Peterson**

MISSION

Develop, acquire, field, and support materiel solutions that optimize the "System of Systems" approach to project and sustain joint forces worldwide.

VISION

Recognized Experts in Commercial Off-The-Shelf (COTS) & Non Developmental Items (NDI) (CaNDI) Acquisition, Logistics and Technology.

PRODUCT MANAGERS

- **Army Watercraft Systems**
  - ***LTC Philip Schoenig***
- **Combat Engineer/Material Handling Equipment**
  - ***LTC Carol Solesbee (ARNG)***
- **Force Sustainment Systems**
  - ***LTC Craig L. Rettie***
- **Petroleum and Water Systems**
  - ***LTC Francisco Espaillat (USAR)***
- **Bridging Equipment**
  - ***LTC Jerry Winberry (ARNG)***

PRODUCT OFFICES

- **Recovery Management Office**
  - ***Mr. William Madro***

Force Projection ~ *Products*

103 Programs*

*Does not include systems in sustainment

PM Combat Engineer/Material Handling Sy

17 Systems

2.5 Cubic Yard Scoop Loaders*
4.5 & 5.0 Cubic Yard Scoop Loaders*
All Terrain Crane Pile Driving System*
All Terrain Lifter, Army System (ATLAS) II
Backhoe Loader (HMEE Type III) *
Grader SLEP*
D7 Bulldozer SLEP*
Deployable Universal Combat Earthmover (DEUCE)*
Dual Steel Wheeled Roller (DSWR)*
Engineer Mission Modules (EMM)*
Grader, Motorized, Heavy*
High Mobility Eng. Excavator (HMEE I) *
Rough Terrain Container Handler (RTCH) *
Scraper, Earthmoving, 11 Cu. Yd. Abn. *
Scraper, Earthmoving, 14-18 Cu. Yd. SLEP*
Skid Steer Loader*
W[illegible] Distributor Abn. 2500 gal.*

14 Systems

Bridge Erection Boat (BEB) *
Common Bridge Transporter (CBT)*
Dry Support Bridge (DSB)*
Improved Ribbon Bridge (IRB) Bays*
Rapidly Emplaced Bridging System (REBS) *
RG31 Mine Protected Vehicle *
Buffalo Mine Protected Vehicle *
Cougar Mine Protected Vehicle *
IVMMD Mine Protected Vehicle *
AVLB – Armored Vehicle Launched Bridge
M9 ACE – Combat Engineer Equipment
Expeditionary Assault Bridge (EAB) *
Bridge Adapter Pallet (BAP)
Improved Boat Cradle (IBC)

Workgroup
NATO MHE Workgroup – CE/MHE*

PM Force Sustainment Systems

43 Systems

Advanced Low Velocity Airdrop System (ALVADS) *
Army Space Heater (ASH) *
Assault Kitchen (AK) * Priority 2
Authorized Stockage List Mobility System (ASLMS) *
Battlefield 12-Head Shower
Containerized Batch Laundry (CBL) *
Containerized Kitchen (CK) *
DoD Combat Field Feeding Program (6.4/6.5) *
Dual Row Airdrop System (DRAS) *
Enhanced Container Delivery System (ECDS) *
Extraction Parachute Jettison System (EPJS) *
Family of Cargo Bed Covers (CBCs)
Food Sanitation Center (FSC) *
Force Provider*
- Chaplaincy Logistical Support Package (CLSP)
- Containerized Chapel (CC)
- Containerized Latrine System (CLS)
- Containerized Self-Serve Laundry (CSSL)
- Containerized Shower System (CSS)
- Electronic Shop Van (ESV) *

Joint Precision-Guided Aerial Delivery Sys (JPADS)* Priority 1
Kitch., Co. Level, Fld. Feeding - Enhanced (KCLFF-E)
Large Capacity Field Heater (LCFH) *
Laundry Advanced System (LADS) *
Lightweight Maintenance Enclosure (LME) *
Low Cost Aerial Delivery System (LCADS) *
Mobile Integrated Remains Collection System (MIRCS) *
Mobile Kitchen Trailer-Improvement (MKT-I)
Modern Burner Unit (MBU) *
Modular Command Post System
Modular General Purpose Tent System (MGPTS)
Mounted Water Ration Heater (MWRH)
Multi-Temp. Refrigerated Container System (MTRCS)
Refrigerated Container System (RCS) *
Small Unit Shower (SUS)
Soldier Crew Tent (SCT)
Space Heater Arctic (SHA)
Space Heater Convective (SHC) 35K BTU
Space Heater Convective (SHC) 60K BTU*
Space Heater: Large, Medium, Small

ICTs
Joint Bridging Development – CE/MHE*
All Terrain Lifter – CE/MHE*
Joint Precision Airdrop System - FSS*
Theater Support Vessel - Objective – AWS*
Joint Modular Intermodal Platform - AWS*

PM Army Watercraft Syste

11 Systems

115 Ton Barge Derrick
Landing Craft Mechanized (LCM8) Mod II*
Landing Craft Utility (LCU) 2000 Material Change*
Large Tug (LT) 128' Modernization*
Logistics Support Vessel (LSV) Reprocurement*
Modular Causeway Systems (MCS) *
Small Tug 900 (ST900) *
Theater Support Vessel - Interim*
Harbormaster Command and Control Center * Priority 1
C4I Upgrade*
UNDS*

PM Petroleum & Water Systems

16 Systems

Tactical Water Purification System (TWPS) 1500 GPH*
Reverse Osmosis Water Purification Unit (ROWPU) 600 GPH*
Advanced Aviation Forward Area Refueling System (AAFARS) *
Assault Hoseline System (AHS) *
Fuel System Supply Point (FSSP) *
LHS Compatible Water Tank Rack (Hippo) *
LHS Modular Fuel Farm (LMFF) * Priority 2
Lightweight Water Purifier (LWP) *
Modular Base Petroleum Lab (MBPL) *
Petroleum Quality Analysis System (PQAS) *
Petroleum Test Kit (PTK) *
Rapidly Installed Fluid Transfer System (RIFTS) * Priority 1
Tactical Petroleum Terminal (TPT) *
Unit Water Pod System (Camel) *
Versatile Tank and Pump Unit (VTPU) *
Forward Area Water Point Supply System (FAWPSS)*

Management Office

2 Systems

M88A1 Medium Recovery Vehicle RECAP*
M88A2 HERCULES*

*MANSCEN/CASCOM Participation
Joint Programs

Force Projection ~ *Technology Challenges*

- **Army Watercraft Systems**
  - Integrate COTS systems software required to meet performance requirements identified in the Harbormaster Command and Control Center (HCCC).
- **Bridging Systems**
  - Develop and integrate composite bridging materials for induction into Dry Support Bridge (DSB) and next generation bridging.
  - Investigate, design, develop and integrate new capabilities for Mine Protected Vehicles (MPVs):
    - Component protection
    - Vehicle frangibility
    - Blast mitigating seating
    - Roll over prevention/vehicle control stability (V=Hull=high CG) high propensity to roll
    - Enhanced crew and vehicle capsule cooling system
  - MS C follow on contract award FY07 for additional systems
- **Combat Engineering and Material Handling Equipment**
  - Procure commercial systems that are easily modified to become C130 transportable by meeting weight, tip-off curve and floor load distribution requirements with minimal disassembly.
  - Integrate and apply technologies to meet requirements for Electromagnetic Environmental Effects (E3), High Altitude Electromagnetic Pulse (HEMP), and Nuclear, Biological and Chemical NBC) Contamination while continuing operations.
  - Develop propulsion systems to meet new Tier 3 EPA non-road emissions standards (a commercial requirement).
  - Develop simulators and training solutions to improve institution and unit level training.

Force Projection ~ *Technology Challenges (cont.)*

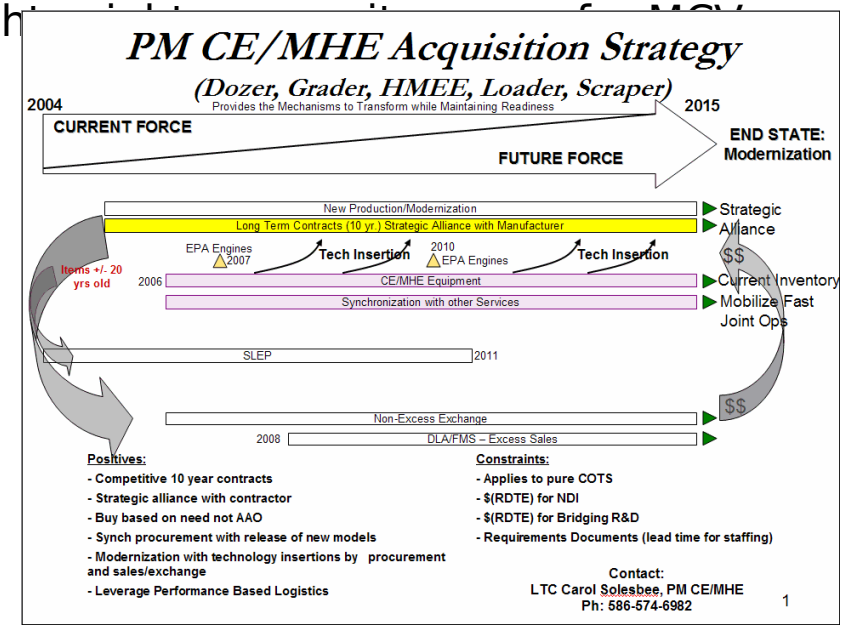
- **Force Sustainment Systems**
  - Develop smart airdrop systems using Global Positioning System (GPS), autonomous control, software integration with USAF Precision Airdrop System (PADS).
  - Identify or develop alternative construction technologies and materials for parachutes that will broaden the industrial base and provide systems that are less costly and easier to maintain.
  - Develop method to safely and efficiently manage, handle, treat and dispose of the waste stream (liquid and solid).
  - Develop a more efficient means for the disposal of black water than collection and hauling away.
  - Investigate cogeneration (energy from waste heat) for shelter heating, field feeding, and field service applications.
  - Develop high efficiency insulation for refrigerated containers for reduced cooling and/or reduced wall thickness.
  - Develop refrigeration technology for improved performance, reliability, and reduced environmental impact of refrigerated containers.
  - Billeting subsystems are the largest component of the Force Provider System; develop expandable, rapidly deployable, and durable rigid wall shelter to replace fabric tents.
  - Investigate improved ventilation and heat exchange equipment for tents.

Force Projection ~ *Technology Challenges (cont.)*

- **Petroleum and Water Systems**
  - Develop Department of Transportation-approved lightweight liquid containers, composite tanks (500-3000 gal).
  - Develop packaged water concepts.
  - Develop innovative water generation technologies (from air, exhaust, etc.).
  - Develop new liquid transfer technologies for movement of liquids over long distances (100-600 miles).
  - Develop next generation water purification technologies.
  - Develop new liquid storage concepts to replace large fabric tanks (200,000 gal and larger).
  - Develop remote gauging for collapsible fabric tanks.
  - Develop GPS tracking for fuel & water systems.
  - Develop innovative, rugged equipment for rapid water & fuel analyses.

Force Projection ~ *Opportunities for Industry*

- **Army Watercraft Systems**
  - Competitive contract forecast for the Modular Causeway Systems (3QFY06).
  - Competitive contract for Harbormaster Command and Control Center (HCCC) (FY07).
  - Landing Craft Utility mods procured in 2QFY06, 2QFY07, and 2QFY08
- **Bridging Systems**
  - Potential for competitive contract award for protection and Mine Clearing Vehicle (MCV)
    capabilities/new technology (2QFY07). MS C follow on award to purchase remainder of fleet requirement.
  - Competitive contract for improved/light[illegible] for MCV (2QFY07)
- **Combat Engineering and Material Handling Equipment**
  - Award new competitive contracts for the ATLAS II, Skid Steer Loaders (SSL), and the Heavy Grader (FY07).
  - Opportunities for increased Service Life Extension Program (SLEP) development and application on existing CE systems i.e. Dozers, Scrapers and Graders (FY07 and beyond).



Force Projection ~ *Opportunities for Industry (cont.)*

- **Force Sustainment Systems**
  - Competitive contract for development and production 2,000-Pound Joint Precision Airdrop System (JPADS). (FY06 – Natick)
  - Competitive contract for development and production 10,000-Pound Joint Precision Airdrop System (JPADS). (FY07 – Natick)
  - Competitive contract for continuing production of the Containerized Kitchen (CK) (FY08 - Natick)
- **Petroleum and Water Systems**
  - Competitive procurement to investigate and integrate new technologies to improve Army petroleum quality and handling systems (FY07).
  - Investigate high reliability components for petroleum handling equipment and storage systems (2QFY07)
  - Initiate and develop improved water analysis equipment for TWPS and LWP (FY07).
  - Opportunities to develop new water packaging concepts to replace bottle water (FY07).
  - Opportunities to develop new liquid storage concepts and the next generation of water purification systems (FY07).
  - Opportunities to develop new fuel analysis equipment (FY07).

Tactical Vehicles ~ *Project Management Office*

Project Manager

COL Scott R. Kidd

Deputy PM Acquisition: **Mr. Tony Shaw**

Deputy PM Logistics: **Mr. Cesare Gaglio**

Deputy PM Technology: **Mr. Paul Skalny**

MISSION

The lifecycle management of tactical wheeled battlefield distribution systems enabling the Modular, Joint and Expeditionary Ground Force

PRODUCT MANAGERS

- **Light Tactical Vehicles**
  - ***PM, LTC Kevin Peterson***
- **Medium Tactical Vehicles**
  - ***PM, Mr. David Dopp***
- **Heavy Tactical Vehicles**
  - ***PM, LTC Lisa Kirkpatrick***

Tactical Vehicles ~ *Products*

86 Programs

PM Light Tactical Vehicles

25 Programs

M996A0, A1 - TOW Carrier
M996A0, A1 - 2-Litter Ambulance
M997A0, A1, A2 - 4-Litter Ambulance
M998A0, A1 - Cargo/Troop Carrier
M1025A0, A1, A2 - Armament Carrier
M1026A0, A1 - Armament Carrier w/winch
M1035A0, A1, A2 - 2-Litter Ambulance
M1036A0 - TOW Carrier, Armored
M1037A0 - Shelter Carrier
M1038A0, A1 - Cargo/Troop Carrier w/winch
M1042A0 - Shelter Carrier w/winch
M1097A0, A1, A2 - Heavy HMMWV
M1113A0 - Expanded Capacity Vehicle (ECV)
M1114A0 - Up-Armored HMMWV
XM1151 - Enhanced Armament Carrier
XM1152 - Enhanced Troop/Cargo/Shelter Carrier

Chassis, Light Tactical Trailer (LTT)
M1101 - LTT, Light
M1102 - LTT, Heavy
M116A3 - ¾ Ton Chassis Trailer

HMMWV Add-on Armor Kits (APK)
HMMWV Recapitalization Program (R1)
HMMWV Repower Program (R2)
USMC HMMWV Procurement (inc. M1043A0, A1, A2; M1044A0, A1; M1045A0, A1, A2; M1046A0, A1; M1123)
USAF HMMWV Procurement (inc. M1116, M1145)

PM Medium Tactical Vehicles

28 Programs

M1078A1 – 2.5 Ton Std Cargo
M1079A1 – 2.5 Ton Van
M1080A1 – 2.5 Ton Chassis
M1081A0 – 2.5 Ton Cargo (LVAD)
M1083A1 – 5 Ton Std Cargo
M1084A1 - 5 Ton Std Cargo w/HME
M1085A1 – 5 Ton Long Bed Cargo
M1086A1 - 5 Ton Long Bed Cargo w/MHE
M1088A1 – 5 Ton Tractor
M1089A1 – 5 Ton Wrecker
M1090A1 – 5 Ton Dump
M1092A1 - 5 Ton Chassis
M1093A0 – 5 Ton Cargo (LVAD)
M1094A1 – 5 Ton Dump (LVAD)
M1096A1 – 5 Ton Long Chassis
M1082 – FMTV 2.5 Ton Trailer
M1095 – FMTV 5 Ton Trailer
M1117 – Armored Security Vehicle
XM1087 - FMTV Expansible Van
XM1140 - FMTV High-Mobility Artillery Rocket System (HIMARS)
XM1157 - FMTV 10 Ton Dump
XM1148 - FMTV 8.8 Ton LHS
XM1147 - FMTV LHS Trailer
XM1160 - Medium Extended Air Defense System (MEADS)
M1022A1 – 7.5 ton Dolly Set
M200A1 – 2.5 Ton Chassis Trailer
M103A3 – 1.5 Ton Chassis Trailer
CKT - Containerized Kitchen Trailer

PM Heavy Tactical Vehicles

33 Programs

M977 – Heavy Expanded Mobility Tactical Truck (HEMTT) Cargo
M985 – HEMTT Cargo w/MHC
M978 – HEMTT Tanker, 2500 gal
M983 – HEMTT Tractor
M984 – HEMTT Wrecker
M1120 – HEMTT LHS
M1074 – Palletized Load System (PLS) w/MHC
M1075 – PLS Truck
M1076 – PLS Trailer
M1070 – Heavy Equipment Transporter System (HETS)
M1000 – HETS Semi-trailer
M1142 – Tactical Firefighting Truck (TFFT)
XM1158 – HEMTT-based Water Tender (HEWATT)
M1977 – Common Bridge Transporter (CBT)
M14 – Improved Boat Cradle (IBC)
M15 – Bridge Adapter Pallet (CBT)
M3/M3A1 – Container Roll On/Off Platform (CROP)
No Model Number - Container Handling Unit (CHU)
M1, M1077/M1077A1 – Flat rack
M915A3 – Line Haul Tractor
M915A4 – Line Haul Tractor Upgrade (Glider)
M916A3 – Light Equipment Transporter (LET)
M917A2 – 20 Ton Dump
M878A2 Yard Tractor
Fifth Wheel Towing Device (FWTD)
M870A3 – 40 ton Low Boy Trailer
M871A3 – 22.5 Ton Flatbed Trailer
M872A4 – 34 Ton Flatbed Trailer
M989A1 – (HEMAT)
M967A2 5000 Gal Bulkhaul Tanker
M969A3 5000 Gal Refueler Tanker

HEMTT RECAP
M915 RECAP

Tactical Vehicles ~ *Technology Challenges*

- **Safety:**
  - Reduce non-combat casualties
  - Crew Compartment crush resistance
  - Improved crew restraints
  - Human Factors (seating, visibility, reduction of operator fatigue)
  - Integrated Driver Vision Aids
  - Collision avoidance
  - Anti-lock brakes
  - Suppression of vehicle fires
    - Predictive failure system
- **Survivability:**
  - Armor protection
  - Force protection/self-defense
  - Vehicle control enhancement
  - Reduced aural & visual signatures
- **Reliability/Maintainability/ Supportability:**
  - Increased reliability
  - Reduced # of tools
  - Reduced non-operator organic maintenance tasks
  - Reduced operator maintenance tasks
  - Reduced scheduled maintenance tasks and intervals
  - Decreased Mean Time To Repair (MTTR)
  - Reduced operator/maintenance training
  - Parts commonality
  - On-Board Diagnostics/Prognostics, **(Vehicle Computer System – VCS)**
    - Interactive Electronic Technical Manuals (IETMs)
    - Automated Preventative Maintenance Checklist (PMC)

Four main warfighting capabilities

Tactical Vehicles ~ *Technology Challenges (cont)*

- **Distribution & Mission Enhancement:**
  - Force Sustainment
    - On-board power generation
    - On-board water generation
  - Operational and Sustainment (O&S) cost savings
  - Power management/on-board power
  - Deployability
    - Reduced curb weights
    - "Quick" component/kit installation & removal, and on-board storage
  - Operational Range
    - Greater distances
    - Increased fuel efficiency
  - Distribution of materiel, equipment & people
- Network Centricity (C4ISR)
  - Integrated hardware/mass storage suite
  - Open software architecture, incorporating:
    - Non-line of sight 2-way communication
    - Integrated blue force tracking
    - Soldier-machine interface
    - Line-of-Sight (LOS) convoy communications
    - Radio frequency identification (RFID) tracking/automated inventory control
- Mobility
  - Improved soft soil traversing characteristics
  - Improved vehicle stability and handling characteristics
- Improved vehicle ride dynamics (vibration reduction)

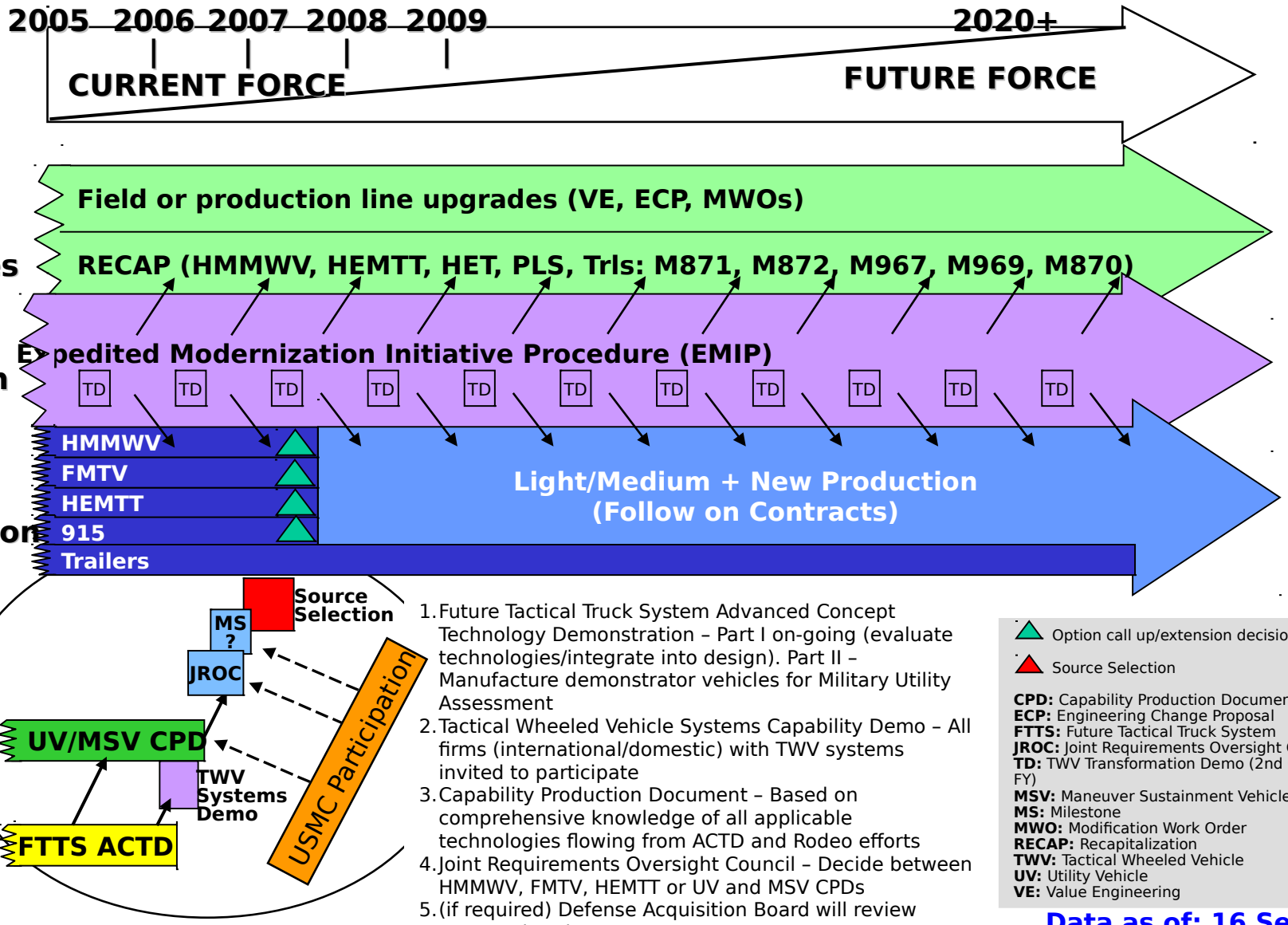
Four main warfighting capabilities (cont)

Tactical Vehicles ~ *Opportunities for Industry*

- **Competitive RFPs currently planned during FY 06**
  - M200A1 - Medium Tactical
    - Small Business Set Aside contract 2Q06
    - 977(ea) 2 1/2 Ton Trailer Chassis, 2 wheeled trailers
  - M871 Series Modernization - Heavy Tactical
    - Competitive contract scheduled for award 2Q06
    - Approximate quantity of 700 each M871 trailers
  - Tactical Vehicle Performance Based Logistics
    - Market Surveys currently being analyzed
    - Anticipate RFP in late FY 06/07 based on assumption of positive survey results and approved Business Case Analysis

TWV Transformation Strategy

TWV Health Monitored through Fleet Assessment



1. Future Tactical Truck System Advanced Concept Technology Demonstration – Part I on-going (evaluate technologies/integrate into design). Part II – Manufacture demonstrator vehicles for Military Utility Assessment
2. Tactical Wheeled Vehicle Systems Capability Demo – All firms (international/domestic) with TWV systems invited to participate
3. Capability Production Document – Based on comprehensive knowledge of all applicable technologies flowing from ACTD and Rodeo efforts
4. Joint Requirements Oversight Council – Decide between HMMWV, FMTV, HEMTT or UV and MSV CPDs
5. (if required) Defense Acquisition Board will review proposed projects
6. Source Selection – Implements milestone decisions

△ Option call up/extension decision

▲ Source Selection

CPD: Capability Production Document
ECP: Engineering Change Proposal
FTTS: Future Tactical Truck System
JROC: Joint Requirements Oversight Council
TD: TWV Transformation Demo (2nd Qtr each FY)
MSV: Maneuver Sustainment Vehicle
MS: Milestone
MWO: Modification Work Order
RECAP: Recapitalization
TWV: Tactical Wheeled Vehicle
UV: Utility Vehicle
VE: Value Engineering

Data as of: 16 Sep 05

Tactical Vehicles ~ *Programs discussed here*

- **Expedited Modernization Initiative Procedure (EMIP) Component Technology Demonstrations**
- **Future Tactical Truck System (FTTS) System Capability Demonstration**
- **UV/MSV Follow-on Efforts**
- **Long Term Armor Strategy (LTAS)**

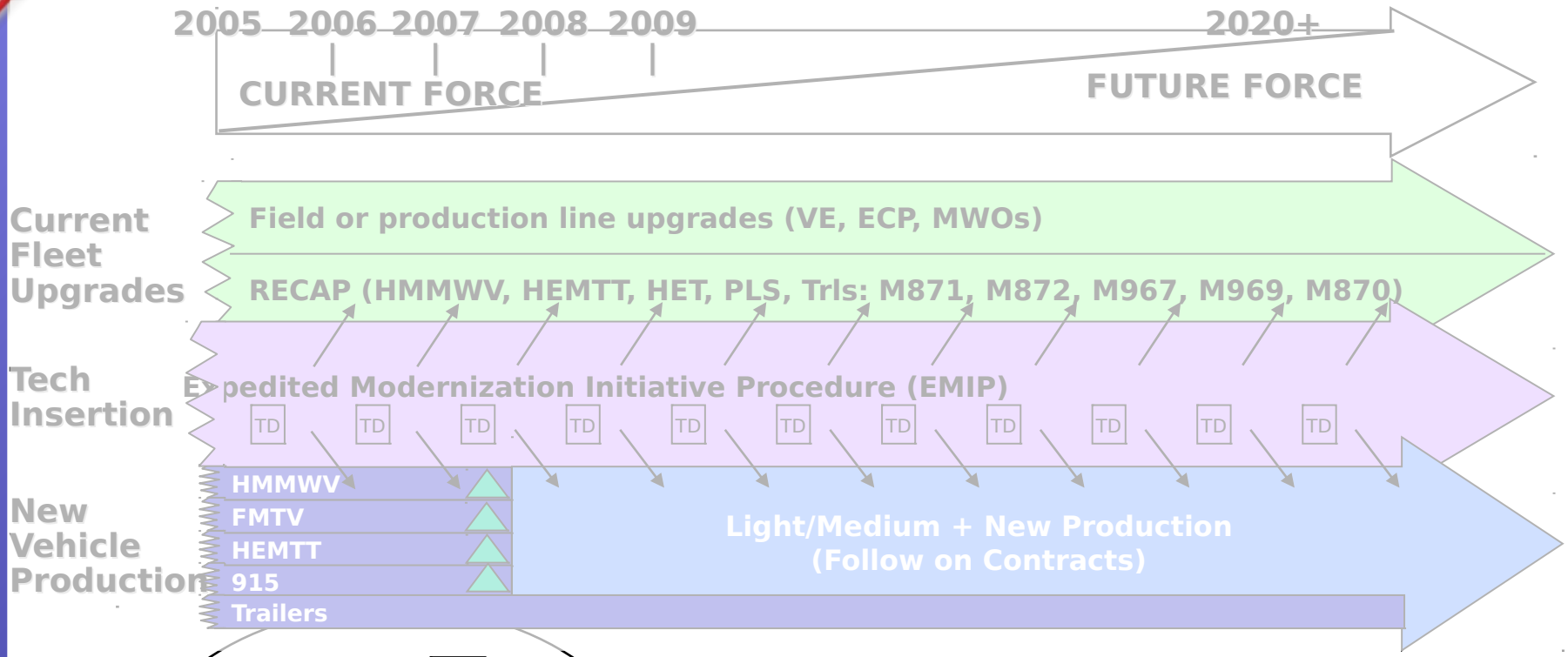
EMIP Component Technology Demonstrations

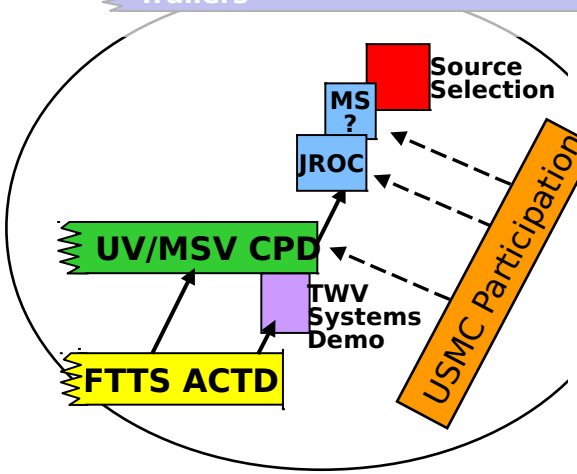
- **EMIP Process starts with Technology Application Idea (TAI), reviewed for Technology Readiness Level (TRL) and Tactical Vehicle (TV) applicability (submit TAIs to: TruckTech@tacom.army.mil)**
- **Component Technology Demonstration – 23-27Jan 06 at YPG, AZ**
- **Submissions reviewed on continuous basis**
- **Announcement websites**
  - TACOM Procurement Site (http://contracting.tacom.army.mil/ssn/sources.htm)
  - Fed Biz Ops: (http://www1.eps.gov/spg/USA/USAMC/DAAE07/EMIPTECH/SynopsisR.html)

Platform Systems Demonstrations

- **Purpose of Platform Systems Demonstrations**
  - Assist in the refinement & development of requirements documents
- **Industry will be invited to showcase integrated vehicle solutions**
- **Systems Demonstrations Event is projected for Jul-Sep 2006 timeframe at a location TBD**
  - To be announced in Fed Biz Ops Oct/Nov 2005
- **This vehicle demonstration will complement the Future Tactical Truck System (FTTS) Advanced Concept Technology Demonstration (ACTD)**
  - MSV Demonstrator award: Stewart & Stevenson
  - UV Demonstrator award: early Nov 05

UV/MSV Follow-on Efforts
System Development and Demonstration (SDD)





1. Future Tactical Truck System Advanced Concept Technology Demonstration – Part I on-going (evaluate technologies/integrate into design). Part II – Manufacture demonstrator vehicles for Military Utility Assessment
2. Tactical Wheeled Vehicle Systems Capability Demo – All firms (international/domestic) with TWV systems invited to participate
3. Capability Production Document – Based on comprehensive knowledge of all applicable technologies flowing from ACTD and Rodeo efforts
4. Joint Requirements Oversight Council – Decide between HMMWV, FMTV, HEMTT or UV and MSV CPDs
5. (if required) Defense Acquisition Board will review proposed projects
6. Source Selection – Implements milestone decisions

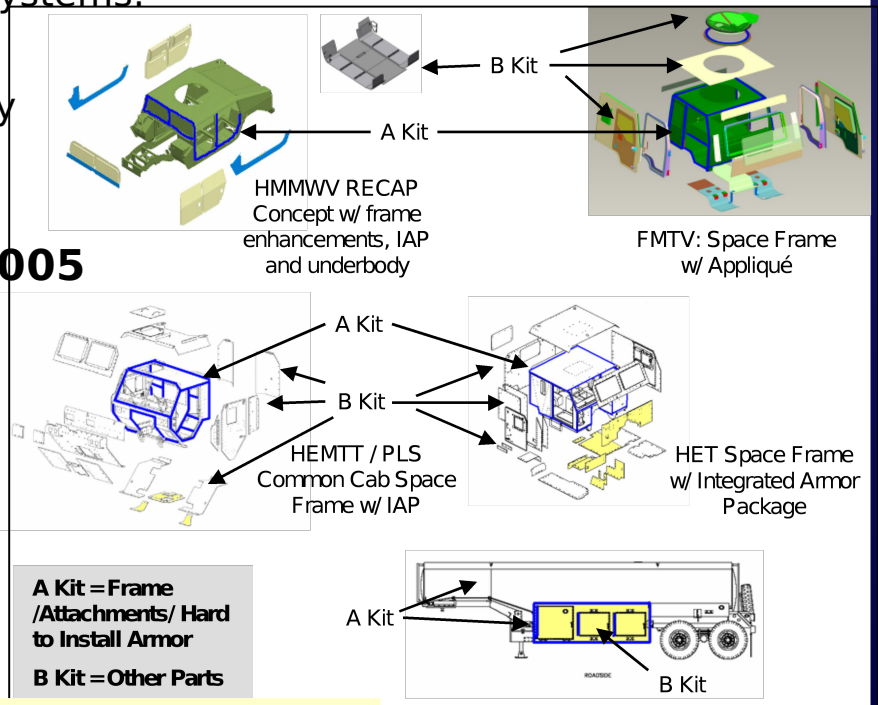
Data as of: 16 Sep 05

Tactical Vehicles ~ *Long Term Armor Strategy (LTAS)*

- **LTAS is the second generation of TWV armoring strategies. It is separate and distinct from current near-term SWA Add-on Armor (AoA) efforts which fulfilled an urgent in-theater need.**
- **LTAS allows the Battlefield Commander to adapt to changes in threat, mission, or technology.**
  - Employs a modular concept – "A-Kit and B-Kit".
  - Emphasizes commonality between vehicle systems.
  - Utilizes lessons learned from AoA.
  - Synchronized to TWV Modernization Strategy
- **Meet Army threat requirements derived from TRADOC DCSINT assessment published on 27 March 2005**
- **Incorporate into the TWV Fleet Modernization through RECAP and n production.**

Test in two phases based on priority.

- PHASE I
  - HMMWV, FMTV, HEMTT
- PHASE II
  - HET, PLS, M915, M939


B Kit
A Kit
HMMWV RECAP Concept w/ frame enhancements, IAP and underbody
FMTV: Space Frame w/ Appliqué
A Kit
B Kit
HEMTT / PLS Common Cab Space Frame w/ IAP
HET Space Frame w/ Integrated Armor Package
A Kit = Frame /Attachments/ Hard to Install Armor
B Kit = Other Parts
A Kit
B Kit

Data as of: 14 Jun 05

• *Separate session to discuss classified information is tentatively scheduled 29 Nov 05 at Detroit Arsenal*

Direct Report ~ *Project Management Offices*

PEO Chief of Staff

COL John S. Myers

PRODUCT MANAGERS

- **Sets, Kits, Outfits, & Tools**
  - ***PM, LTC Jeff Carr***
- **Test, Measurement, and Diagnostic Equipment**
  - ***PM, LTC Dwayne Morton***

PM SKOT & PM TMDE ~ *Products*

PM Sets, Kits, Outfits and Tools (SKOT)

38 Systems

Diving Equipment
- Diving Equipment Sets (A and B)
- Recompression Chamber
- Under Water Photo Support Set

Sets, Kits & Outfits
- Automotive Maint and Repair, FM Basic & Supplement
- General Mechanic's Tool Kit (GMTK)
- Multi Capable Maintainer Tool Kit (MCMTK)
- Individual Aircraft Armament Repairman Tool Set (IAARTS)
- Team Aircraft Armament Repairman Tool Set (TAARTS)
- Shop Equipment Mechanical Maintenance, Shelter
- Electronic Repair Tool Kit
- Small Arms Toolkit
- Standard Automotive Tool Set (SATS)

Shelter Mounted Sets, Kits, and Outfits
- Body, Explosive Ordnance Disposal (BEOD)
- Engine Fuel System Repair, Shelter Mtd /Electronic System
- Maint, Weapon Tool Kit
- Instrument & Fire Control Repair, Shelter Mounted
- Mechanical Maintenance, Shelter Mounted /Battalion
- Maintenance Sets
- Power Plant Set, Shelter Mounted
- Small Arms Repairs, Shelter Mounted
- Tool Set Contact & Emergency Repair
- Tool Set, Full Tracked Vehicle Repair

Shop Set Equipment
- Forward Repair System (FRS)
- Hydraulic System Test and Repair Unit (HSTRU)
- Pioneer Tool Outfit (PTO)/Hydraulic and Electric Tool Outfit (HETO)
- Shop Equipment, Contact Maintenance (SECM)
- Allied Trades
- Mobile Parts Hospital (MPH)
- Shop Equipment, Welding (SEW)
- Shop Set, Electrical
- Spare Parts Storage Cabinet Set
- Carpenter's Tool Kit (CTK)
- Engine Lathe
- Milling Machine
- Welding Machine
- Power Hack Saw
- Power Hack Saw (Portable)

Combat Support Equipment

PM Test, Measurement, and Diagnostic Equipment (TMDE)

25 Systems

Common Embedded Diagnostics
- Wireless Diagnostics Sensor (WDS)
- Vehicle Integrated Diagnostic Software (VIDS)

Calibration Sets (CALSETS)
- CALSET 2000
- CALSETS Equipment Modernization

IFTE At Platform Automatic Test Systems
- Maintenance Support Device (MSD)
- MSD V2
- Wireless Internal Combustion (ICE) Engine Diagnostic Kit

IFTE Off Platform Automatic Test Systems
- Base Shop Test Facility Version 5 (BSTF (V) 5)
- Next Generation Automatic Test System (NGATS) (BSTF (V) 6)

General Purpose Electronic Test Equipment (GPETE)
- OS-303, Oscilloscope
- AN/USM-677, Spectrum Analyzer
- TS-4530/UPM, Portable Radar Test Set
- Test Set, Radio A
- Test Set, Portable Radio AN/PRM-35
- Signal Generator 2GHZ
- Signal Generator 26.5GHZ
- Function Generator
- Pulse Generator
- Analyzer, Data Communications
- Counter, Microwave Frequency
- Test Set, Transmission
- Oscilloscope, Low End
- Analyzer, Distortion
- Test Set, Electrical Cable
- Test Set, Pitot-static

PM SKOT & PM TMDE ~ *Technology Challenges*

Sets, Kits, Outfits & Tools (SKOs)

- **Affordable technology to automate the inventory and accountability of tool kits and shop sets in the field.**
- **Modularize Explosive Ordnance Disposal (EOD) Response Equipment, enabling more efficient render safe operations against unexploded ordnance and improvised explosive devices.**
- **Incorporating robotics and advanced diving components for improved gap crossing and underwater surveying.**
- **Combined Laser and Powered metal technology for Mobile Parts Hospital (MPH).**
- **Simplified computer operation of the Mobile Parts Hospital (MPH).**
- **Building a consolidated database with all SKOs and tools**
  - Must be accurate and up to date
- **Process for evaluating new technology and incorporation into existing SKOs**
  - Centrally funded vs. use of Field Operations and Maintenance funding
  - Configuration management

Test, Measurement, and Diagnostic Equipment

- **Off Platform Automatic Test Systems (OPATS)**
  - Reduce cost and size of Off-Platform testers. Combine instruments and utilize virtual/synthetic instrumentation.
  - Standardize hardware and software interfaces and specifications.
  - Provide family of interconnect devices for current systems.
  - Reduce cost and size of Electro-Optical testing assets.
  - Establish organic Electro-Optic calibration capability.
  - Integrate GCSS-Army/Common Logistics Operating Environment capabilities into Automatic Test Systems.
- **At Platform Automatic Test Systems (APATS)**
  - Embedded Diagnostics
    - A cost effective and compact ZigBee Wireless Diagnostics Sensor (WDS) for tactical vehicles equipped with Diagnostic Connector Assembly (DCA)
    - Evolve automated maintenance and diagnostics capabilities to predictive maintenance.
  - Wireless Internal Combustion Engine (ICE) kit
    - A single and compact wireless ZigBee pressure transducer with acceptable error to cover the current three ranges –30 inches Mercury (Hg) to +25 PSI, 0-1 Kilo-Pounds Per Square Inch (KPSI), 0-10 (KPSI).
    - A single compact, wireless ZigBee digital databus chip set for all digital databus interfaces including J1708/1939 9-pin, J1708 Detroit Data Link (DDL) 12-pin, J1708 6-pin, Haldex, General Motor-Universal Asynchronous Receive and Transmit (GM-UART).
- **General Purpose Electronic Test Equipment (GPETE)**
  - Transform multiple conventional GPETE instruments into a single Virtual Instrument with a plug and play functionality and fail safe mechanisms.

PM SKOT ~ *Opportunities for Industry*

Competitive RFP's currently planned for FY06:

Soldier Portable Shop Sets

- **Enfire** - Consists of hand held computer, digital video camera, long & short distance laser measuring devices, GPS, bar code scanner, printer/scanner/fax, battery charger, communications interface, transport case and software.
- **Carpenter Support** - Consists of hammer/drill/drivers, circular, reciprocating, and variable speed jig saws, transport bags and selected hand tools. Contains small generator & encapsulated battery recharging station w/extension cord.
- **Urban Operations** - Components include infrared camera, explosive detectors, ventilating fans, markers, saws, emote viewing instruments, multi-industrial gas detector, elbow & knee pads, portal shields, ladders, tactical torches & welders, winches, cheesecloth, paints, lights, wire, cable ties and communicators.
- **Demolition Support** - Components consist of explosively formed penetrating, metal and plastic linear and metal conical charge forms and numerous attachment devices.
- **Pioneer Support** - Large set of tools & construction equipment; some powered, some hand tools for construction, forestry operations and mine emplacement etc.,
- **Command Post/Theater Operations Center Lighting** - Set contains commercial spotlights powered by rechargeable NiCad batteries, charging unit, spare bulbs and accessories.
- **Pioneer General Purpose** - Set contains multiple shovels, axes, picks, sledge hammers, wrecking bars, post hole augers, safety belts, blocks machetes, files, saws, hammers etc., for simple pioneering tasks.
- **Light Set** - Components include light bulbs, corded light fixtures, receptacle plugs, special electrical cords and a storage case..
- **CO2 Repair and Refill** - Consists of tools and equipment to refill and repair carbon dioxide fire extinguishers.
- **Rapid Runway Repair** - Components include sand grid sections, full panel and half panels of FRP matting, mat anchoring bolts and various tools.
- **Landing Zone Lighting** - Components include COTS flashlights and accessories (amber, infrared and white) with wand ends, ground pins and transport case.
- **Pioneer Land Clearing & Building Erection** - large set with axes, picks shovels hammers, saws ropes, ladders, tools etc., for land clearing, building erection and general construction tasks.

PM SKOT ~ *Opportunities for Industry (cont.)*

Competitive RFP's currently planned for FY06:

Mobile/Containerized Shop Sets

- **Tool Set Vehicle, Full Track** – Components include cleaning tools, brushes, welding tools and supplies, drills and bits and various of hand tools.
- **Auto Maintenance & Repair FM Supp #2** – Includes various maintenance stands, trestle hoist, variety of hand tools, jacks, various gauges.
- **Shop Equipment Machine Shop FM Basic Less Power** – Set includes lathes, various hand tools, gauges, calipers, various power tools, brushes, hand files, paint brushes, drill bits.
- **Shop Equipment Fuel Electric** - Components include sockets, various hand tools, tables, cabinets, power tools, cable assemblies.
- **Shop Equipment Machine Shop FM Heavy Supp #1 Less Power** - Consists of various hand tools, clamps, milling equipment, and cutters, various calipers, milling wood cutters, pipe wrenches, hacksaw, cabinets, cable assemblies
- **Artillery Shop Shelter** – Components include grinders, hydraulic pump kits, pressure tanks, and various hand tools.
- **Small Arms Repair Shelter** – Consists of a non-expandable shelter with various hand tools, cabinets, gauges, die sets, grinding machines, vices, fire extinguishers, etc.
- **Instrument & Fire Control Repair, Shelter Mounted** – Consists of a non-expandable shelter with various hand tools, cabinets, gauges, calipers, die sets, hand reamers, drill sets, vices, electric etchers
- **Shop Equipment Machine Shop** – Components include various hand tools, small part storage cabinets, cable assemblies, die and tap sets, thread cutters, drill twists, and gages.

Targetry

- **Live Fire Training Ranges** - 19 different hard-wired, pneumatic and radio controlled ranges.

PM TMDE ~ *Opportunities for Industry*

Competitive RFP's currently planned for FY06:

- **Off Platform Automatic Test Systems (OPATS)**
  - Coordinate with Army in establishing test system interfaces and standards.
  - Established interface standards will open up opportunities for industry to develop their own test solutions, prompting technology development and modernization, yet interfacing with Army ATE future force products.
  - Test instrument miniaturization / consolidation opportunities that have application commercially. The technology has a natural evolution toward At-Platform test and diagnostics.
- **General Purpose Electronic Test Equipment (GPETE)**
  - Application of Performance Based Logistics in Test Equipment Modernization (TEMOD) program will allow industry an opportunity to partner in the logistics support process.

Summary

- **How to get connected with the latest information:**
  - EMIP Web site: http://contracting.tacom.army.mil/ssn/sources.htm
  - Fed Biz Ops Web Site: http://www1.eps.gov/spg/USA/USAMC/DAAE07/EMIPTECH/SynopsisR.html
  - PEO CS&CSS website: http://peocscss.tacom.army.mil/
  - Involvement in Annual Technology Demonstrations (January 2006)
    - Not a Source Selection
    - On your own Dollar